Case Study

Soaring into the Cloud:
How an Education Company Migrated to AWS with Datavail

The Project

With 30,000 students spread throughout the world, one education company faces unique IT challenges daily. With a collection of on-premise and collocated databases, scattered across its landscape, the facility knew the decision to migrate to Amazon Web Services (AWS) would present several challenges. The company realized it could not go at it alone, and the project would need the expertise, resources and flexibility that few companies could provide. But who to turn to?

The Partner

Fortunately, the answer was easy. Datavail had been managing the facility's databases for the previous five years, developing a familiarity with both the company's technology and corporate culture. In simple terms, Datavail knew the business; Datavail could not only help the company with the migration itself, but it could also provide the consultation and guidance the company's leaders needed to ensure they were making the right short- and long-term technology choices when migrating to the cloud.

As the customer put it: "…one of the reasons we chose Datavail was the unique combination that they brought to the table. They had competency managing complex databases across the board, whether it be SQL, MySQL, or Oracle."

This was critical, because a data migration involves not only moving the data, but understanding the data regardless of the platform in which it resides. "For almost every database, they had certified engineers who would manage and architect those databases," the customer continued.

Another reason the company's team felt confident in choosing Datavail is its relationship with AWS and AWS certifications. Datavail is an Amazon Advanced Consulting Partner, which means the company is certified as an expert in AWS. But that's not the limit of its value to the company. Datavail also has vast experience in all major public cloud technologies, and experience migrating customers whose challenges are similar to the company's. Because of this wide range of competencies, Datavail could assist the company with all phases of the migration plan, from assessment to configuration, replication, monitoring and tuning the migration path. The customer summed up his rationale: "Datavail has the unique ability to support a large pool of DBAs who are available on demand, and these DBAs can be utilized on a project-by-project basis, mapping up with how our needs are changing."

The Daunting Challenge of the Education Environment

Indeed, educational needs are changing. Almost constantly. Higher Education is a highly regulated industry, and its regulations shift rapidly. For example, regulations governing how institutions administer and track financial aid are always evolving, and they are determined and enforced by the United States Department of Education. Compliance with these regulations is critical, since non-compliance can have dire consequences. As a result, the company is required to pick up and implement any regulatory or procedural changes as close as possible to when they occur. This necessitates system upgrades at regular intervals.

These "environment refreshes," as the company calls them, had traditionally been a four-week process, taxing the company's resources. Working with Datavail, the company migrated this process to AWS and, as a result, watched the timeline shrink from four weeks to 72 hours. Environment refreshes are no longer a major time and resource commitment for the company, and they occur securely and efficiently with Datavail's assistance. And, now that they only take 72 hours, they can occur more often; this keeps the company up to speed with the latest changes and requirements, ensuring that the information school officials have is accurate and traceable to its source.

Maximizing the Value of AWS

Using its cloud expertise, Datavail helped optimize the value of the company's AWS project by adding other value to their environment, including:

- Provisioned RDS (relation database services) instances for SQL Server, Oracle, MySQL and PostgreSQL, allowing the DBA team to focus more on business-critical tasks and less on managing upgrades and enhancements.

- Auto Scaling and Load Balancing for EC2 instance. By using AWS Elastic Load Balancing, the need for expensive and complicated load balancers was eliminated, as was the need to maintain and service another tool.

- Implemented redundancy at every stage in order to reduce or eliminate dependency on single points of failure. With redundancy at every possible failure point, the company's risk is greatly reduced.

- Established best practices for scalability and security. Best practices, when followed, ensure the smoothest possible operations, and can only be established by certified AWS competency partners. With AWS certification and experience in a wide array of cloud migrations, Datavail was eminently qualified to accomplish this important task.

The overall value of the migration to AWS is further buttressed by tools like Amazon Route 53 as its DNS solution. Route 53 is able to route user traffic to the nearest Availability Zone, reducing latency and improving the user experience. Other valuable add-ons include AWS Cloud Formation and AWS Command Line Interface. By implementing and using these utilities, the company has a level of standardization and control that was impossible to achieve with its old infrastructure architecture.

Beyond the Environment Refresh Project

The environment refresh project, however, is not the only endeavor that Datavail has accomplished as part of the company's AWS migration. Datavail has also helped provision the company's EC2 instances, the backbone of any cloud migration. With Amazon Elastic Control Cloud, the company has more control over its data and less expense in managing it. By also implementing AWS CloudWatch, the company now has the ability to monitor and measure usage metrics and alarms. This is particularly important due to the cyclical nature of the company's business and the need to optimize system resources and usage dependent on the time of year.

 "Our business goes into cycles. When a term starts, we have a lot of traffic, and then things slow down," said the customer. "So, we needed technology that can scale based on those demands, (including) a partner who would scale their resources based on that model. So we needed a level of stability to be aligned with a level of flexibility. And Datavail was able to provide that."

Current Status

The company has migrated approximately 50 applications and 50 nested sub-applications from within its on-premise stack. In the collocated data center, Datavail helped implement a storage area network (SAN) to connect to x86 servers, Sun Sparc processors and the Solaris operating system to six Oracle Database 10g and Windows SQL databases, thereby further simplifying the overall architecture and increasing flexibility and control.

What's Next?

While moving applications to AWS and migrating databases to Amazon RDS is an impressive move, the value of AWS for the company has just begun to show itself. Like the proverbial iceberg, there is much more beneath the surface. Eventually, the company intends to consolidate all 12 of its data centers in the AWS cloud, which will lead to savings in both operating costs and capital expenditures. But, perhaps even more importantly, it will allow the company to take advantage of the technical advances AWS continues to add to its platform. The customer summarized, "… some of our databases are already on the way over to AWS, but it will be a journey. It's not going to happen over the next few weeks, but eventually over the next six months, twelve months—or beyond—we will be moving over."

And Datavail will be side by side with the customer the entire way, ensuring success from both from a business standpoint and customer experience perspective.